

In th Claims

Claims 1 – 8 (cancelled)

9. (Original) An optical switching system comprising:

a plurality of optical switches, each optical switch comprising:

a switching array of micromirrors having a plurality of inputs and a plurality of outputs, the micromirrors of the switching array each having first and second positions;

a first test array of mirrors having a test input and a plurality of outputs, the first test array enabling a test signal to be routed to mirrors of the switching array; and

a second test array of mirrors having a test output, the test input of the first test array being routed to the test output when the mirror being tested is in one of the first and second positions;

an input micromirror array having a combined test input and a plurality of outputs, each output being aligned optically with an input to the first test array of a respective one of the optical switches, thereby enabling the combined test input to be routed to the first test array of each optical switch; and

an output micromirror array having a plurality of inputs from the second test arrays of each optical switch and a combined test output.

Claims 10 - 17 (cancelled)

18. (original) An optical network comprising at least two nodes,

wherein the first node includes at least one optical switch comprising a switching array of micromirrors having a plurality of inputs and a plurality of outputs, the micromirrors of the switching array each having first and second positions and a test array of mirrors having a test input and a plurality of outputs, the test array enabling a test signal to be routed to mirrors of the switching array,

wherein the second node includes at least one optical switch comprising a switching array of micromirrors having a plurality of inputs and a plurality of outputs, the micromirrors of the switching array each having first and second positions and a test array of mirrors having a number of inputs connected to or optically aligned with the outputs of the switching array, and a test output,

wherein a test signal can be provided at the test input of the first node and a monitoring arrangement is provided for monitoring the signal at the test output of the second node.

19. (Cancelled)

20. (New) A method of testing an optical switching system comprising:

a plurality of optical switches, each optical switch comprising:

a switching array of micromirrors having a plurality of inputs and a plurality of outputs, the micromirrors of the switching array each having first and second positions;

a first test array of mirrors having a test input and a plurality of outputs,
the first test array enabling a test signal to be routed to mirrors of the switching array;
and

a second test array of mirrors having a test output, the test input of the
first test array being routed to the test output when the mirror being tested is in one
of the first and second positions;

the method comprising:

providing an input micromirror array having a combined test input and a
plurality of outputs, each output being aligned optically with an input to the first test
array of a respective one of the optical switches, thereby enabling the combined test
input to be routed to the first test array of each optical switch; and

providing an output micromirror array having a plurality of inputs from the
second test arrays of each optical switch and a combined test output;

inputting an optical test signal at the combined test input;

monitoring an output signal at the combined test output; and

controlling the input micromirror and output micromirror thereby to test at least
two of said plurality of optical switches.

21. (New) A method of testing a path between two nodes of an optical network, the
method comprising

providing a first node having at least one optical switch comprising a switching
array of micromirrors having a plurality of inputs and a plurality of outputs, the
micromirrors of the switching array each having first and second positions and a test

array of mirrors having a test input and a plurality of outputs, the test array enabling a test signal to be routed to mirrors of the switching array,

providing a second node having at least one optical switch comprising a switching array of micromirrors having a plurality of inputs and a plurality of outputs, the micromirrors of the switching array each having first and second positions and a test array of mirrors having a number of inputs connected to or optically aligned with the outputs of the switching array, and a test output,

inputting an optical test signal at the test input of the first node; and

monitoring an output signal at the test output of the second node.